

#### 4. Chemical Control/New Products

##### CHERRY FRUIT FLY CONTROL- SPINOSAD RATE

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Treatments were applied to a block of 41 cherry trees, four or more trees to the treatment, with sprayed buffer trees separating test trees as much as possible. This small orchard was infested and unsprayed the previous season. Materials were applied by "Solo" backpack airblast plot sprayer at various concentrations, with per-tree gallonages adjusted to approximate either 100, 200 or 400 gallons of water carrier per acre. Spinosad treatments started on June 3, 1999, three days after traps showed first fly emergence and were applied weekly (June 3, 10, 17, 24) for a total of four applications. Treatment 1 started on June 3, azinphos was applied twice (June 3 and 14), 11 days interval, then carbaryl was applied once on June 24.

Treatment	Products Tested	Rate per 100	Gallons/Acre	Tree #'s
1	azinphos methyl or carbaryl (Sevin 50WP)	0.5 lb. 2 lb.	200	4
2	spinosad + oil	2 oz. + 0.25%	400	4
3	spinosad + oil	2 oz. + 0.25%	100	4
4	spinosad + oil	4 oz. + 0.25%	100	6
5	spinosad + oil	8 oz. + 0.25%	100	4
6	spinosad (NO oil)	2 oz.	100	8
7	No Treatment	0	0	4
8	Sprayed Buffer Trees			7

##### Trap Catch:

Eight 3.75 inch diameter red ball cherry fruit fly traps baited with vials of ammonium carbonate were placed randomly throughout the trial trees to assess the cherry fruit fly population during the pre-harvest treatment period. It was assumed that trap catches would indicate presence of the pest, and potential for fruit infestation if adults were not controlled by regular sprays. Adult fly catch started May 31, and weekly trap catch totaled 12, 25, 34 and 42 during the weeks leading up harvest.



### Fruit Infestation Results:

At harvest maturity, 100 fruit were randomly taken from each of four trees within each treatment. Each sub-sample of fruit was crushed in a heavy brown sugar syrup and inspected for larvae of cherry fruit fly. In the past, this inspection method has simplified the detection of larvae as young as in the first instar. The table below outlines the data:

Treatment	A	B	C	D	Total Fruit Infested	Percent Fruit Infested
(1) Azinphos, then carbaryl	0	0	0	0	0	0
(2) Spinosad 2 oz/100, 0.25% oil, 400 GPA	0	0	0	0	0	0
(3) Spinosad 2 oz/100, 0.25% oil, 100 GPA	0	0	0	0	0	0
(4) Spinosad 4 oz/100, 0.25% oil, 100 GPA	0	0	0	0	0	0
(5) Spinosad 8 oz/100, 0.25% oil, 100 GPA	0	0	0	0	0	0
(6) Spinosad 2 oz/100, 100 GPA, NO oil	0	0	0	0	0	0
(7) Unsprayed Check	12	23	16	36	87	21.7